AE44-503C SERIES

PRODUCTION DISPLAY SYSTEM

(Includes the AE-503DX2)

ATS APPLIED
TECHNICAL
SYSTEMS

AE44-503C PRODUCTION DISPLAY SYSTEM
REV 04/17/01

DESCRIPTION

The AE44-503C Series Production Display System is a production pacing (Goal) and monitoring (Actual) display. It includes one four-inch, four digit red display for the Production Goal and one four-inch, four digit green display for the Production Actual Count. This display works in conjunction with an AE-503DX2, Remote Display Interface, or with a user supplied computer or PLC. Using the AE-503DX2 the Production Goal is adjustable to provide from one count per second to one count every 999 seconds. The Production Actual Count is adjustable from one count per input to 999 counts per input. When using a computer or PLC instead of the AE-503DX2, actual display data is sent from the computer or PLC to the AE44-503C. The 4 inch high digits are visible up to 200 feet away.

The model numbers of the AE44-503C Series are derived from the digit size and the number of digits in each line of the display, followed by the suffix, 503C. For two-sided versions, the model number would have /2. For example: AE44/2-503C would be the model number for a Two-Sided, Production Display System. For your specific model number and hardware configuration refer to the drawings at the back of this manual.

For multiple display systems, remote displays can be added at distances up to 2000 feet away. These are available in sizes ranging from 1" high to 12" high digits.

SPECIFICATIONS

AE44-503C PRODUCTION DISPLAY

Digits:	4-Inch High, Seven Segment Digits. Red LED's for the Goal and Green LED's for the Actual.
Number of Digits:	Four digits. See the drawings at the back of this manual for your specific model.
Power:	120 VAC, 60 Hz (20VA). Eight-foot power cord is provided. Optional power includes 50 HZ, 12 VAC, 12 to 15 VDC and 220 VAC.
Enclosure:	Wall mount black painted steel enclosure. See the drawings at the back of this manual.
Signal Wiring:	Requires serial data signal (RS232) from an AE-503DX2 or from a computer or PLC. A 30-foot, color-coded, four conductor cable is provided.

AE-503DX2 REMOTE DISPLAY INTERFACE

GOAL

Count Rate:	Three BCD Push-Wheel Switches are provided to adjust Goal Count Rate from 1 count per second to 1 count per 999 seconds.

ACTUAL

Count Rate:	Three BCD Push-Wheel Switches are provided to adjust Actual Count Rate from 1 to 999 counts each time the P.B. switch is depressed.
Run/Hold:	A Run/Hold switch is provided. In the Hold position the Goal Count is stopped.
Count Rate:	Up to 25 pulses per second (25Hz)
Count Signal:	Push Button Switch on the front panel. Optional: 5V DC to 30V DC pulse (>20 msec), Can be jumpered for NPN or PNP transistor, or dry contact closure input.
Resets:	Built-In front panel reset push buttons are provided for Goal Reset and Actual Reset.
RS232 Output:	Goal and Actual counts are transmitted serially to the AE44-503C or other AE Series displays with the RS232 Input Option (354).
Power:	12-16 VAC, 60 Hz (20VA). This power is provided by the AE44-503C.
Accuracy:	Synchronous with the AC power line when power is applied. On battery backup a 0.005% crystal time base is used.
Battery standby:	Self-charging, 9V Ni-Cad.
Operating Temperature:	0 to 50 Degrees C
Enclosure:	NEMA 12 painted steel enclosure. See the drawings at the back of this manual.
Wiring:	Terminal Blocks are provided for all power and signal wiring.

For all other options refer to the drawings at the back of this manual for additional specifications.

<u>**INSTALLATION**</u>

MOUNTING

The AE44-503C Display can be mounted to a wall or panel using the two mounting studs on the back panel. For two-sided versions, eye-bolts or conduit hubs are provided. Things to consider for mounting include ambient light, viewing area, ambient temperature, dirt or dust. Refer to the specific drawings for your model number.

The AE-503DX2 Remote Display Interface can be mounted to a wall or panel using the four mounting tabs.

WIRING

An AC power cord is standard for the 120 VAC power for the AE44-503C. For any other power configurations, refer to the specific wiring diagrams provided.

Power for the AE-503DX2 is provided by the AE44-503C.

A 30-Foot, color-coded, four-conductor cable is provided with the AE44-503C for connection to an AE-503C Remote Display for its 12-16 VAC power input and RS232 signal output.
Refer to the cable-wiring table below:

FOUR-CONDUCTOR CABLE WIRING TABLE

Wire Color	Function
Red	RS232 Serial Data
Black	COM – logic common
Green	12-16 VAC
White	12-16 VAC
Shield	Tied to earth ground inside the AE44-503C.

Refer to wiring diagram 503CWD2 at the back of this manual for more detail.

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OPERATION

Both the AE44-503C Display and the AE-503DX2 must be connected before the system is operated. All controls are located on the front panel of the AE-503DX2.

Before applying power, be sure all system wiring is completed. Apply power to the unit. The displays will rotate during the power on self-test and then a version number will appear for a few seconds. Both displays will show all zeros. If a charged battery is installed, the self-test will be bypassed.

SETTING THE GOAL COUNT RATE

Set the Run/Hold switch to the Hold position. Set the desired Goal Count rate using the GOAL Push-Wheel switches. The rate entered does not take effect until the Run/Hold switch is set to the Run position. The rate cannot be changed on the fly. Any changes made to the rate while in the Run position will be ignored until the Run/Hold switch is set to Hold and then back to Run.

Each Push-Wheel switch has a range of 0 through 9. A setting of 001 will cause the Goal to increment by one count every second when the Run/Hold switch is set back to the Run position. A setting of 999 will cause the Goal to increment by one count every 999 seconds.

GOAL RESET

Press the Goal Reset push button on the front panel to reset the Goal count to 0000.

SETTING THE ACTUAL COUNT RATE

Set the Run/Hold switch to the Hold position. Set the desired Actual Count rate using the ACTUAL Push-Wheel switches. The rate entered does not take effect until the Run/Hold switch is set to the Run position. The rate cannot be changed on the fly. Any changes made to the rate while in the Run position will be ignored until the Run/Hold switch is set to Hold and then back to Run.

Each Push-Wheel switch has a range of 0 through 9. A setting of 001 will cause the Actual to increment by one count every time the Push Button Switch is depressed. A setting of 999 will cause the Actual to increment by 999 counts when the Push Button Switch is depressed.

ACTUAL RESET

Press the Actual Reset push button on the front panel to reset the Actual count to 0000.

POWER LOSS

If power is lost, a rechargeable battery backup system will store both counts for up to four hours. Also the COUNT and RESET signals are functional during power loss. For systems using active signal inputs, the COUNT and RESET functions will continue as long as the signal inputs are applied.

TECHNICAL SUPPORT

For any questions concerning installation and operation of this product, contact our factory at:

PHONE (800) 444-7161
OR
FAX (318) 797-4864

SERVICE POLICY

It is recommended that all service for this product be done by the factory or by a factory authorized service representative. Applied Technical Systems will provide ongoing service support in and out of warranty. Send your repairs to:

APPLIED TECHNICAL SYSTEMS
849 KING PLACE
SHREVEPORT, LA 71115

APPLIED TECHNICAL SYSTEMS
WARRANTY POLICY

ATS warrants its products to be free of defects in material and workmanship for a period of 24 months from the date of purchase. ATS will repair or replace any product returned to its authorized factory service center within the warranty period so long as there is no evidence that the product has been abused, misused, damaged by lightning, overloads of any kind or water, or altered in any way.

Products returned for warranty must be returned with freight prepaid. ATS will pay normal freight charges to return the product to the customer. Special premium freight requested by the customer will be charged to the customer.

ATS disclaims any warranties expressed or implied, including merchantability and/or fitness for a particular purpose. In no event shall ATS be held liable for incidental or consequential damages.